

TITLE OF INVENTION

IMPROVED VACUUM COLLECTION BAG AND METHOD OF OPERATION

5

BACKGROUND OF INVENTION

THIS APPLICATION IS A CONTINUATION OF 09/847,808 (5/2/01) NOW ABANDONED,
WHICH CLAIMS BENEFIT OF 60/201,654 (05/03/2000) AND CLAIMS BENEFIT OF
1. Field of Invention 60/268,183 (02/13/2001).

llly
4/1/04

The present invention relates to collection bags in appliances, such as a vacuum cleaner.

10

2. Description of Related Art

A variety of vacuum cleaners are presently available that collect dirt in a disposable paper bag filter. These vacuum cleaners are found in several forms including upright, canister, and wet/dry vac configurations. These device are sold under the brand names Hoover, Eureka, Royal Dirt Devil, Panasonic, Sanyo, Sears Kenmore, SHOP-VAC, Sears Craftsman, Ridgid, Genie, etc.

1007342001

15

The majority of vacuum cleaners purchased today utilize a porous paper bag to filter and store dust collected by a vacuum cleaner. As air pneumatically conveys dirt into the bag, it exits through the porous paper media surrounding the cavity leaving the large dirt in the bag. Because of the relatively poor filtration efficiency of paper filter media, better vacuum cleaners employ multi-stage filtration systems that generally employ a HEPA backup filter to capture fine dust that penetrates through the paper bag filter. Lower-end vacuum cleaners have no backup filter and since consumers cannot retrofit their vacuum cleaner with a backup filter, they must suffer with dust emissions from their vacuum cleaners. Vacuum cleaners employing paper bag filters without backup filters provide such poor filtration that fine dust can be visually found accumulating on the inside of the vacuum cleaner housing that encompasses the paper bag filter. These dust emissions can also reduce the vacuum cleaner's life by contaminating the motor in the suction device.

20

25

30

The filtration efficiency of a paper vacuum cleaner bag of the prior art is also reduced due to the design of the bag. In most paper vacuum cleaner bags the dirt enters the bag inlet at a high velocity and the dirt impacts the opposite wall of the bag. Thus the



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov



Bib Data Sheet

CONFIRMATION NO. 5648

SERIAL NUMBER 10/073,724	FILING OR 371(c) DATE 02/11/2002 RULE	CLASS 055	GROUP ART UNIT 1724	ATTORNEY DOCKET NO.
APPLICANTS John James Scanlon, Wilmington, DE;				
** CONTINUING DATA ***** This application is a CON of 09/847,808 05/02/2001 ABN which claims benefit of 60/201,654 05/03/2000 and claims benefit of 60/268,183 02/13/2001				
** FOREIGN APPLICATIONS *****				
IF REQUIRED, FOREIGN FILING LICENSE GRANTED** SMALL ENTITY ** ** 03/11/2002				
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after met Allowance Verified and Acknowledged Examiner's Signature _____ Initials _____		STATE OR COUNTRY DE	SHEETS DRAWING 18	TOTAL CLAIMS 20
				INDEPENDENT CLAIMS 3
ADDRESS John J. Scanlon 1308 Hillside Blvd. Wilmington, DE 19803				
TITLE VACUUM COLLECTION BAG AND METHOD OF OPERATION				
FILING FEE RECEIVED 785	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	